

# Notice of Allowability

Application No.

10/690,484

Examiner

Russell Frejd

Applicant(s)

DOLANSKY ET AL.

Art Unit

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicant's amendment received 25 August 2006.
2. ☒ The allowed claim(s) is/are 2-13.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
**RUSSELL FREJD**  
**PRIMARY EXAMINER**

In re Application of: Dolansky et al.

***Allowance of Application # 10/690,484***

1. The following communication is in response to Applicant's amendment received 25-August-2006. Claim 1 was cancelled by this amendment, and claims 2-13 are pending.

***Reasons for Allowance***

2. The following is an Examiner's Statement of Reasons for the indication of allowable subject matter.

2.1 The instant application is directed to a non-obvious improvement over the information described the prior art, the most relevant of the prior art of record being the article authored by Lo, entitled *A Tool-Path Control Scheme for Five-Axis Machine Tools*, which discloses a servo control method for five-axis machining applications, based on a real-time transformation between the drive-coordinate basis, in which the five drives are operated, and the work-piece coordinate basis, in which the deviation error is defined.

2.2 The improvement comprises an apparatus and method for simulating the mechanical behavior of a mechanism of machine tools or production-line machines having multiple drive controllers for driving multiple axes, wherein: a mechanism model generates a state signal using actual axis values produced by mathematical models of the drive controllers of the respective axes, and supplies the state signal to the digital controller as feedback, whereby both regulated and unregulated axes of the machine are simulated simultaneously. Furthermore, at least one of the multiple axes has NC-axis drive control or PLC-axis drive control, so that at least one NC-model and one PLC-model are used to compute the respective actual axis values; and wherein, a geometric kinematic mechanism model is used to produce at least one state signal calculated

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using the respective actual values. These patentable distinctions are included in each of the independent claims, nos. 10-13.

**2.3** For at least these reasons, the art of record, either individually or in combination, fails to teach, suggest, or render obvious the useful, concrete and tangible <apparatus and method for simulating the mechanical behavior of a mechanism of machine tools or production-line machines having multiple drive controllers for driving multiple axes> having the corresponding structure which is disclosed in the specification and equivalents thereof at least at page 10, line 2 through page 15, line 11, and Figures 1-3. In view of the foregoing, the claims of the present application are found to be patentable over the prior art.

### ***Response Guidelines***

**3.** Any comments considered necessary by applicant **MUST** be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably accompany the Issue Fee. Such submissions should clearly be labeled "Comments on Statement of Reasons for Allowance".

**3.1 Any response to the Examiner in regard to this allowance should be**

**directed to:** Russell Frejd, telephone number (571) 272-3779, Monday-Friday from 0530 to 1400 ET, **or** the examiner's supervisor, Kamini Shah, telephone number (571) 272-2279. Inquires of a general nature or relating to the status of this application should be directed to the TC2100 Group Receptionist (571) 272-2100.

**mailed to:** Commissioner of Patents and Trademarks  
P.O. Box 1450, Alexandria, VA 22313-1450

**or faxed to:** (571) 273-8300

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*Hand-delivered responses should be brought to the Customer Service Window, Randolph Building, 401  
Dulany Street, Alexandria, VA, 22314.*

**Date: 15-September-2006**

A handwritten signature in cursive script that reads "RUSSELL FREJD". The signature is written in dark ink and is positioned above a horizontal line.

**RUSSELL FREJD  
PRIMARY EXAMINER**